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INSTITUTE OF ACTUARIES.

PROCEEDINGS OF THE INSTITUTE.

First Ordinary Meeting. Session 1864-5.—Monday, 28th November, 1864.

The President in the Chair.

Read and confirmed the minutes of the last anniversary meeting.

Mr. Wm. F. Purdy, nominated at the last ordinary meeting, was elected an Associate.

Mr. Peter Gray read a paper by Mr. Makeham "On the solution of general problems in survivorships."

Thanks having been voted to Mr. Gray and Mr. Makeham, the meeting adjourned to Tuesday, the 27th December, 1864.

Second Ordinary Meeting. Session 1864-5.—Tuesday, 27th December, 1864.

W. B. HODGE, Esq., Vice-President, in the Chair.

Read and confirmed the minutes of last ordinary meeting.

The following gentlemen, nominated at the last ordinary meeting, were elected members of the Institute, viz. :—

Fellows.

Henry Ambrose Smith.	Augustus Hendriks.
Edward W. Brabrook.	

Associates.

Howard S. Smith.	George W. Cooke.
Edward H. Panton.	Alfred B. Adlard.
Alexander Stuart.	Charles B. Coghlan.
John Hy. Bignold, M.A.	John B. Bannerman.

Mr. Peter Gray read a paper "On a table for the formation of logarithms and antilogarithms. Part. I."

Thanks were voted to Mr. Gray, and the meeting adjourned to Monday, the 30th January, 1865.

Third Ordinary Meeting. Session 1864-5.—Monday, 30th January, 1865.

The President in the Chair.

Read and confirmed the minutes of last ordinary meeting.

The following gentlemen, duly nominated at the last ordinary meeting, were elected Associates of the Institute, viz. :—

Alfred M. Humphreys.	Wm. Vaughan.
Edward H. Hoddinott.	Wm. Rodgers.
John Duncan.	Stephen H. Emmens.

The President announced the following as the result of the Examinations held in December, 1864, viz. :—

MATRICULATION EXAMINATION.

Ten candidates presented themselves for this Examination, of whom four passed in the following order of merit, viz. :—

	Marks.			Marks.
Wm. Vaughan . . .	472		Geo. S. Crisford . .	266
H. S. Smith . . .	295		Edward Smyth . . .	250

SECOND YEAR'S EXAMINATION.

Seven gentlemen presented themselves for this Examination, and of these four passed, viz. :—

	Marks.			Marks.
Charles F. Haycraft . .	575		Edward F. Day . . .	465
Chas. J. Wilkins . . .	535		F. Addiscott . . .	395

THIRD YEAR'S EXAMINATION.

One candidate presented himself, and passed, viz., Mr. C. G. Laing.

Mr. Peter Gray read the second part of his paper "On a table for the formation of logarithms and antilogarithms."

Thanks having been voted to Mr. Gray, the meeting adjourned to 27th February, 1865.

Fourth Ordinary Meeting. Session 1864-5.—Monday, 27th February, 1865.

The President in the Chair.

Read and confirmed the minutes of last ordinary meeting.

Mr. W. S. B. Woolhouse read the third part of his paper "On interpolation, summation, and the adjustment of numerical tables."

Thanks were voted to Mr. Woolhouse, and the meeting adjourned to the 27th March, 1865.

Fifth Ordinary Meeting. Session 1864-5.—Monday, 27th March, 1865.

The President in the Chair.

Read and confirmed the minutes of last ordinary meeting.

The following gentlemen, nominated at the last ordinary meeting, were elected Associates of the Institute, viz. :—

Alfred Sprulls.

Oscar L. Wood.

Mr. Archibald Day read a paper "On the statistics of second marriages in the families of the peerage."

Thanks were voted to Mr. Day and the meeting adjourned to Monday, the 24th April, 1865.

Sixth Ordinary Meeting. Session 1864-5.—Monday, 24th April, 1865.

The President, in the Chair.

Read and confirmed the minutes of last ordinary meeting.

The following gentlemen, nominated at the last ordinary meeting, were elected Associates of the Institute, viz. :—

Geo. Hamilton Bell.

Geo. S. Horsnail.

Mr. Berridge read a paper "On the graduation of the table of mortality deduced by Mr. Bailey and Mr. Day from observations amongst the families of the peerage"; and Mr. Adler read one "On the Government insurance rates and regulations."

Thanks were voted to both gentlemen, and the meeting adjourned to Monday, the 27th November, 1865.

The Eighteenth Annual General Meeting, Saturday, 3rd June, 1865.

ARTHUR HUTCHESON BAILEY, Esq., in the Chair.

Mr. J. Hill Williams, Honorary Secretary, read the minutes of the preceding ordinary meeting, and the following Reports and accounts of Receipts and Payments :—

"The Council are glad to be enabled to report, that the affairs of the Institute continue to be in a very satisfactory state.

"For particulars, they refer to the letter from the Assistant-Secretary, which accompanies this report. In that document it will be seen, amongst other matters, that the Society's income for the year was £640, which, however, includes £150. 13s. received on account of the Hardy Memorial, and that the expenses were £460, being greater than usual in consequence of the cost of the Index to the *Journal*. The property of the Institute is now estimated at £1,110; and the number of members on the register is 203, being an increase of 5 in the twelve months.

"The following papers have been read during the Session, viz. :—

'On the solution of general problems in survivorships.' By Mr. W. M. Makeham.

'On a table for the formation of logarithms and anti-logarithms.' Parts I. and II. By Mr. Peter Gray.

'On interpolation, summation, and the adjustment of numerical tables.'
By Mr. W. S. B. Woolhouse.

'On the statistics of second marriages amongst the families of the peerage.' By Mr. Archibald Day.

'On a method of graduation applied to the peerage mortality deduced by Mr. Bailey and Mr. Day, with tables.' By Mr. Wm. Berridge.

'On the Government assurance tables.' By Mr. Adler.

"Since the last annual meeting an Index to the first ten volumes of the *Journal* has been completed, and appears to have given general satisfaction. The Council has also received information that the Clerical and Medical Office, the London Assurance, the Pelican, and the Guardian Offices, have all, at the cost of no inconsiderable labour and expense, completed the extracts from their registers of the particulars required for determining the rate of mortality amongst the lives assured; and the attention of the Council is now being directed to the means of using, to the greatest advantage, the valuable data thus placed at their disposal. Meanwhile they are in hopes of receiving further contributions of the like nature from other Assurance Companies.

"As above observed, the contributions to the Hardy Testimonial have reached the sum of £150. 13s., and it is now proposed to close the subscription list and to proceed to carry out the objects for which the fund has been raised."

*"Institute of Actuaries, 12, St. James's Square,
2nd May, 1865.*

"DEAR SIR,—Herewith I transmit to you the Abstract of Receipts and Payments of the Institute of Actuaries for the financial year ended on the 31st March, 1865 (see p. 244), duly audited, with a few remarks thereon.

"RECEIPTS.

"In 1862-63 the receipts were £426. 8s., in 1863-64 they were £521. 6s. 6d., and in 1864-65 they were £640. 1s. 11d.; after deducting from this last amount £150. 13s., which was received for the Hardy Memorial Fund, there appears a slight decrease to the previous year. This is accounted for by the number of life subscriptions which were received in 1863-64.

"The total sums received from subscriptions in the last three years are as follows:—

1862-63.	Annual subscriptions	.	.	.	.	.	£409 10 0
1863-64.	Annual subscriptions	.	.	.	.	£411 12 0	
	Life	„	.	.	.	84 0 0	
							£495 12. 0
1864-65.	Annual subscriptions	.	.	.	.	£415 16 0	
	Life	„	.	.	.	21 0 0	
							£436 16 0

"The balance in the bank on the 31st of March, 1864, amounted to £159. 12s. 8d., as compared with £417. 5s. 11d. of the previous year—a decrease of £217. 13s. 3d. This falling-off is caused by the large sum of £488. 18s. 2d. having been invested during the year.

"PAYMENTS.

"Had it not been for the cost of having the General Index made and printed (£96. 8s. 6d.), the annual subscriptions alone would have covered the general expenses. The following table shows the annual subscriptions and general expenses for the last three years:—

	Annual Subscriptions.	General Expenses.	Difference.
1862-63.....	£409 10 0	£371 18 0	+ £37 12 0
1863-64.....	411 12 0	399 3 6	+ 22 8 6
1864-65.....	415 16 0	460 2 11	- 44 6 11

"The cost of printing the *Journal* was £85. 3s. 6d., as compared with £104. 9s. of the previous year. The payments for salaries, lighting, postage stamps, and miscellaneous expenses, are also less; whilst for stationery and sundry printing, ordinary meeting expenses, and the library, they have slightly increased.

"ASSETS.

"The investments of the Institute on the 31st March last amounted to £646. 14s. 3d., as compared with £203. 17s. 8d. of the previous year; and the balance at the bankers, and the petty cash balance, amounted to £159. 15s. 10d., as compared with £422. 13s. 5d. The total available assets, therefore, at the end of the year amounted to £806. 10s. 1d., against £627. 11s. 1d. for the year 1863-64.

"LIABILITIES.

"The following is an estimate of the liabilities of the Institute to the 31st September next:—

Two quarters' salaries	£52 10 0
Rent (half year, due Michaelmas)	37 10 0
Journals, April and July (say)	45 0 0
Stationery and sundry printing (say)	10 0 0
Miscellaneous (say)	10 0 0
	£155 0 0

"LIST OF MEMBERS.

"On the 1st April, 1864, the total number of Members on the list was 198; during the year, 22 new members were elected—viz., 4 Fellows and 22 Associates; and the losses were 5 deaths and 12 resignations, of whom 4 were Fellows and 13 Associates; leaving on the list, on the 31st March, 1865, 90 Fellows and 113 Associates—in all, 203 members. This is an increase of 5 in twelve months.

"In the course of the year 13 Associates have been transferred to the Fellows. These transfers, although they affect the totals of the different classes of members, do not alter the general total.

"I am, dear Sir, yours faithfully,

"FREDERICK GOVER,

"C. JELlicoe, Esq."

"Assistant Secretary.

The Chairman moved, "That the Report of the Council and the Abstract of Receipts and Payments be adopted, entered on the minutes, and printed in the *Journal*."

Mr. Hodge seconded the motion, and it was at once put and carried unanimously.

The Chairman said the next business was to elect the President, Vice-Presidents, Council, and officers for the ensuing year. The Council had put forward a list, but the members would understand that this was merely a recommendation in accordance with the usual custom, and they were quite at liberty to make any alteration in it they thought proper.

Mr. R. P. Hardy and Mr. B. Newbatt having been appointed scrutineers, a ballot was taken, and the result thereof showed that the whole of the gentlemen recommended by the Council were elected unanimously.

Mr. Galsworthy said he had been requested to move a resolution, and in doing so he should, if not deemed out of order, avail himself of the opportunity of making one or two remarks upon the Report which had just been passed. Looking at the way in which the Chairman had put the motion for the adoption of the Report, he was disposed to think that, according to city notions, he was one of the most admirable chairmen they could have obtained; for in the city it was thought to be an excellent plan to put the resolution before anyone had an opportunity of making remarks upon it, lest those remarks should be of an unfavourable nature. (Laughter.) As, however, his observations would be of a satisfactory character, it made no difference whether he offered them then or before the Report was adopted. It seemed hardly right that the Report should be passed over quite *sub silentio*. (Hear, hear.) So far as he had been able to gather, the Report was really a very admirable one. There had been an increase in the receipts; and although, after deducting the amount for the Hardy Memorial, that increase was not very large, yet it was satisfactory to find that there was an increase, and that the expenditure was considerably under the income. (Hear, hear.) If they looked to the papers that had been read in this Institute during the past Session they had equal cause for congratulation. Mr. Woolhouse had favoured them with a paper, which, for complete-

ness and ingenuity, was seldom approached; and he had illustrated his views by elaborate diagrams that must have cost him an immense amount of labour. (Hear, hear.) Then they had been favoured with two excellent papers by Mr. Peter Gray, another by Mr. A. Day, and other gentlemen had favoured them with their productions. So that whether they looked at the financial position of this Institute, or at the quality of the papers read during the past Session, they had much cause for congratulation. (Hear, hear.) With regard to the mortality experience of the Offices, it was satisfactory to find that such large Companies as the Clerical, Medical and General, the Guardian, the London Assurance Corporation, and the Pelican, had been amongst the first to supply the facts that were so desirable to obtain in a combined form. It was very necessary that the data should be added to as much as possible, and perhaps ultimately the experience of other Offices might be obtained. (Hear, hear.) He was very glad the number of members increased. It was not every Institution that could keep up its lapses in these days, and whose new business was improved upon year by year. He could not sit down without expressing his deep regret that the President was not present on this occasion. (Hear, hear.) They were always much pleased with the observations he made on the proceedings and prospects of the Institute, and he was sure no one could listen to what he said without feeling gratified that the Institute enjoyed so able and judicious a President. (Cheers.) They were all greatly indebted to him for the great, the extraordinary amount of attention which he gave at all times and under all circumstances, in the best possible manner, to promote the interests of the Institute of Actuaries. (Cheers.) It was, therefore, with great pleasure that he (Mr. Galsworthy) proposed, "That the best thanks of this meeting be given to the retiring President, Vice-Presidents, Council, and other officers, for their services during the past year."

Mr. Newbatt seconded the motion, and in doing so alluded to the loss the Institute was about to experience by the resignation of Mr. Reddish. He thought they ought not to take leave of their Honorary Secretary without some acknowledgment of the services he had rendered. (Hear, hear.) They would all feel that he had honourably earned the retirement which he was about to seek, and that his connexion with this Institute for so many years had been of a most useful and satisfactory character. Mr. Galsworthy had referred to the peculiar excellence of the papers that had been read before them during the past Session; and he must say that, as one of the objects of this Institute was to raise the status of the members of the actuarial profession, he did not know any means whereby that could be more satisfactorily accomplished than by having papers presented to them of the character of those with which they have been favoured during the Session which had lately terminated. (Hear, hear.) Those papers would have a tendency to extend a knowledge of the Institute far beyond its walls, for most of them were of a character to interest the scientific world at large. (Hear, hear.)

The resolution having been carried unanimously—

The Chairman said that, in the absence of the President, it had devolved somewhat unworthily upon him to request them, on behalf of the Council and officers, to accept their thanks for the vote just passed. He was very glad Mr. Galsworthy had found an opportunity to offer the remarks he had. The three points he had alluded to—the state of their finances, the character of the papers, and the data they were engaged in obtaining—showed that they might be fairly considered to be making progress. (Hear, hear.) They could not boast of being rich, and it was not desirable they should be. The accumulation of money was not their object. (Hear, hear.) So long as they could make both ends meet that was all they wished. He was sure the papers read during the past Session were a credit not only to this Institute but to any scientific Society. (Hear, hear.) With regard to the mortality experience which was at present being obtained, there had been a great deal of discussion, and a great deal more would be required before they had completed their investigations. He hoped that in the main the members would be satisfied with the progress that had been made not only in this matter, but in the Institute generally. He thought this Institute formed a centre for gentlemen connected with all classes of assurance business, old and young, home and foreign, London and provincial. (Hear, hear.)

On the motion of Mr. Hodge, seconded by Mr. Brown, Mr. G. W. Berridge, Mr. R. P. Hardy, and Mr. B. Newbatt, were elected auditors for the ensuing year.

Mr. Hodge next proposed, "That the best thanks of the members are due and are hereby given to Mr. John Reddish, for his long and valued services as Honorary Secretary of this Institute."

Mr. Lodge seconded the resolution, which was carried unanimously.

Mr. Reddish briefly returned thanks, and the proceeding closed with a vote of thanks to the Chairman.

INSTITUTE OF ACTUARIES.

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Abstract of Receipts and Payments for the Year ended 31st March, 1865.

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RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
To Cash balance brought forward	417	5	11	By Investment in Consols			
Petty cash	5	7	6	Rent	75	0	0
				Salaries	95	5	0
To Subscriptions for 1863-64 (arrears)	422	13	5	Journal—Printing	£85	3	6
„ Subscriptions for 1864-65, viz.:	22	1	0	Index	75	8	6
61 Fellows, Town, at £3 3 0	192	3	0	„ compiling	21	0	0
23 „ Country, „ 2 2 0	48	6	0				
74 Associates, Town, „ 2 2 0	155	8	0	Stationery and sundry Printing	181	12	0
19 „ Country, „ 1 1 0	19	19	0	Ordinary Meeting Expenses	32	11	3
				Lighting	3	14	8
Paid into Bank in error	415	16	0	Postage and Receipt Stamps	6	10	0
Composition—T. J. Seales (Associate, Town)	21	0	0	Library	8	8	7
Dividends on Consols	29	10	11	Advertising Examinations	4	18	0
Hardy Memorial Fund	150	13	0	Coals	8	8	0
				Furniture and Repairs	10	14	6
				House and Petty Expenses	4	12	0
				Miscellaneous (including Check Book)	9	3	0
				Balance in Bank, carried forward	159	12	8
				„ of Petty Cash	0	3	2